

ABSTRACT OF THE DISCLOSURE

An organic vertical cavity laser array device for producing multimode laser output includes a substrate; a bottom dielectric stack reflective to light over a predetermined range of wavelengths, being disposed over the

5 substrate; and an active region for producing laser light. A top dielectric stack is spaced from the bottom dielectric stack and reflective to light over a predetermined range of wavelengths. The active region includes one or more periodic gain region(s) and spacer layers disposed on either side of the periodic gain region(s). The periodic gain region(s) is aligned with the antinodes of the

10 device's standing wave electromagnetic field. The device includes array of spaced laser pixels which have higher reflectance than the interpixel regions. The spaced laser pixels have different sizes and the spacings between pixels having the same or different lengths to cause the output of the vertical cavity laser array device to produce multimode laser output.